REMARKS

Reconsideration and allowance are respectfully requested. The claims are amended to correct the numbering to 30 – 55. Claims 46 and 50 are canceled without prejudice.

Double Patenting Rejection

The Examiner rejects claims 30 – 55 provisionally under the judicially created doctrine of double patenting over a copending application. Enclosed herewith is a terminal disclaimer which obviates this rejection.

Objection to Drawings

Enclosed herewith is a new set of drawings addressing the Examiner's comments regarding labeling figures 1, 2 and 4 as "prior art". Withdrawal of the objection to the drawings is respectfully requested.

Rejection of Claims 46 – 53 Under Section 101

Applicant has cancelled claims 46 and 50 thus rendering the rejection of these claims moot. The remaining claims 47 – 49 and claims 51 – 53 have been amended to recite a computer-readable medium and have been made dependent on claims 54 and 55 respectively. Therefore, Applicant requests a withdrawal of this section 101 rejection.

Rejection of Claims 30, 32 – 34, 36 – 38, 40 – 42, 44, 45, 54 and 55 Under Section 102

The Examiner rejects claims 30, 32 – 34, 36 – 38, 40 – 42, 44, 45, 54 and 55 under Section 102 as being anticipated by Mohri et al., "A Rational Design for a Weighted Finite-State Transducer Library". Applicant traverses this rejection.

With regards to claim 30, the Examiner asserts that the weight update step taught in section 2.1 of Mohri et al. anticipates the step of claim 30 which requires leaving each state "q" with its weights pre-x-multiplied by an ε-distance from state "p" to a state "q" in the automaton A. Section 2.1 of Mohri et al. and FIG. 6 of the reference do teach a method of ε removal for an automaton but they (the present inventor and the author of the prior art

reference are the same person) fail to teach this step of claim 30. In Mohri et al., step 8 in the pseudocode updates the weight (designated as λ) of a given transition t_o as follows:

$$\lambda(t_o) \leftarrow \lambda(t_o) + \lambda(t_i) \times \lambda(t_\varepsilon)$$

The term t_i is taught in Mohri et al. in section 2.1 as being simply a non-ε transition. The updated weight of $\lambda(t_o)$ is the semiring sum of such extended transitions with a given source, destination and label. In contrast to the teachings of Mohri et al, the invention of claim 30 recites leaving each state "q" with its weights pre-x-multiplied by an ε-distance from state "p" to a state "q" in the automaton A. Thus, instead of using a non-ε transition in the cross-multiplication operation as in the prior art, the present invention uses an ε-distance between two states in the automaton. Therefore, Applicant submits that the present invention of claim 30 is not taught or suggested by Mohri et al. and this claim is in condition for allowance.

Claims 32 and 33 each depend from claim 30 and recite further limitations therefrom. Claim 32 specifically recites that the valued d[p,q] is cross multiplied with w[e]. Mohri et al teach that a weight of a non-ε transition $\lambda(t_i)$ is cross-multiplied. Claim 32 therefore recites a different value in the cross-multiplication operation. Accordingly, Applicant submits that these claims are patentable as well.

Claim 34 includes the same limitation discussed above for claim 30, therefore, Applicant submits that this claim and dependent claims 37 and 38 are also patentable.

Claim 38 is patentable for the same reasons that claim 30 is patentable, and 40-41 depend from claim 38 and are therefore patentable as well.

Claim 42 and its dependent claims 44 – 45 are patentable for the reasons set forth above.

Claim 54 and its new dependent claims 47, 48 and 49 are patentable for the reasons set forth above.

Claim 55 and its new dependent claims 51, 52 and 53 are patentable for the reasons

set forth above.

Rejection of Claims 31, 35, 39 and 43 Under Section 103

The Examiner relies on taking office notice that it would have been obvious to do a

depth first search as a means of reducing automata size for more efficient processing. Under

the MPEP Section 2144.03, the Examiner may make office notice of facts outside the record

which are capable of instant and unquestionable demonstration of being well-known in the

art. Applicant traverses the taking of office notice that it would be obvious to use a depth-

first search of an automaton. This Examiner is not taking office notice of a _fact_ but has taken

office notice "that it would have been obvious...." In other words, the Examiner has taken

office notice of a <u>legal conclusion</u>, which Applicant submits is an inappropriate analysis.

Therefore, Applicant respectfully requests that the Examiner either withdraw this rejection or

produce evidence that implementing a depth search as a means for reducing automata size for

more efficient language processing by eliminating zero probability states in a lattice is

"capable of instant and unquestionable demonstration as being 'well-known' in the art."

MPEP 2144.03. An Example as mentioned in the MPEP of the kinds of facts that Examiner

can take office notice of include that well-known fact that one would adjust the intensity of a

flame according to the heat requirement.

In esoteric technologies, assertions of technical facts must be supported by citation of

a reference. Further, facts constituting the state of the art that are subject to rational

disagreement are not amenable to the taking of judicial notice. MPEP 2144.03. Applicant

submits that these principles as set forth in the MPEP by the courts urge against taking office

notice in this case.

Since Mohri et al. do not teach each limitation of the parent claims to claims 31, 35,

39 and 44 as discussed above, and because Applicant submits that it would not be obvious to

do a depth-first search as articulated by the Examiner, Applicant requests that the Section 103

rejection of these claims be withdrawn.

CONCLUSION

Having addressed the rejection of claims 30 - 55, Applicant respectfully submits that

the subject application is in condition for allowance and a Notice to that effect is earnestly

solicited.

Respectfully submitted,

Date: February 4, 2005   By: _____
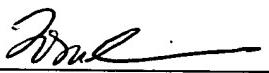
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